

# FOREST CONTROL

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# CONTINUOUS INVENTORY

"Today I have grown taller from walking  
with the trees."

...Karle Wilson

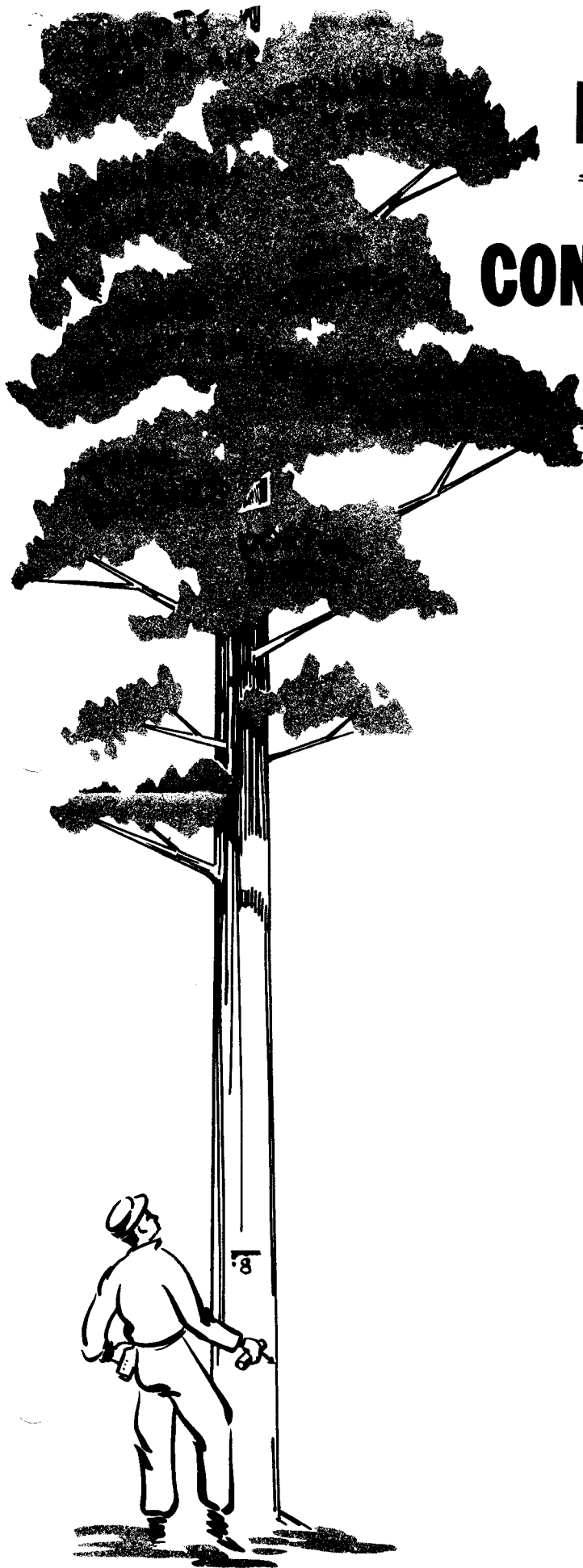
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"Many dark and sleepless nights  
have I been a companion for owls,  
separated from the cheerful society  
of men, scorched by the summer's  
sun, and pinched by the winter's  
cold -- an instrument ordained to  
settle the wilderness."

Life of Daniel Boone  
1884

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A BRIEF RESUME OF THE CFI CONCEPT AND ITS HISTORY  
IN THE LAKE AND CENTRAL STATES

The U. S. Forest Service in Region 9 established a branch of forest inventory and large ownership management in 1934. Out of this action program of work and service to the forest industries and the states, a standard system of continuous forest inventory has gradually developed. The major expansion of the system has been within the past 12 years. During this period more than two dozen cases have been established. Involving 20,000 test plots on six to seven million acres of forest land, these projects are on industrial state and county forests in the Lake and Central States Region.

Firmly established on the basic premise that the continuous management of forest lands is dependent upon their continuous inventory, these test plots have been set out primarily to secure information in the realm of forest ecology. They have an ecological orientation. In recent years use of the data has broadened to include many other purposes. Among these are forest accounting, administration, operation and special studies in forest soils, entomology and pathology.

Continuous forest inventory procedures in the Lake and Central States are deeply imbedded in the cooperative work approach. Many foresters in private and public life have contributed to the growth and activation of CFI. The standard techniques of fixed radius samples and mechanical and unstratified sampling design have been cooperatively developed and widely applied in Region 9.

CFI has grown rapidly because of a national need for repetitive and comparable forest inventories. This growth has been sparked by industrial forest landowners who have long applied the practice of frequent in and out inventories to the control of company businesses. It is only natural that these principles should be adapted also to the control and management of industrial forests.

The U. S. Forest Service has had a large share in the development of the techniques and in the interchange of thought relative to the CFI system. Early in 1938 a trial run of 140 fixed radius permanent plots was made on 1,100 acres of northern hardwood forest. Successfully remeasured 22 and then again 27 years later, these original plot techniques are the backbone of present day CFI in Region 9. Credit for this follow-up on the original test plots goes to Dr. Eric Bourdo of the Ford Forestry Center, L'Anse, Michigan.

The branch of forest inventory and large ownership management is 30 years old this year. Its principal purpose today has not changed from the original purpose of cooperation in the improvement of private and public forest management. The work has intensified, the cooperators have increased in numbers, and continuous forest inventory with data processing now take most of the time of the men entrusted with the work.

This program of work and service is not intended to be an exclusive U. S. Forest Service prerogative. There is room for everyone interested in cooperative forest management and inventory. It is a great field for private consulting services, for state programs with similar objectives, and even for planned collaboration between the forest industries themselves.

This cooperative program which is a continuation of personal efforts in conservation reminiscent of the work of Austin Carey many years ago, will continue so long as it has a supporting clientele. There is one other limitation. It will go on so long as people believe multiple cooperation in forestry is the first and greatest gateway to multiple forest use.

CAL STOTT  
Forester, Region 9  
U. S. Forest Service

## MEASURING TALL TIMBER LENGTHS

### THE WOVEN METALLIC REEL TAPE vs. THE 60-FOOT STEEL DRAG TAPE

Usable lengths of many trees in the forest are far above the reach of the 20- to 30-foot measuring pole in common use. One-third of the timber trees in Region 9 require hypsometering for true usable length. To do this well requires patience, good judgment, and an accurate measurement of the lineal distance to the point of measurement with the hypsometer. Two ways of making this measurement are in vogue.

#### The Old Method

The old method uses a 100-foot metallic reel tape in a leather-covered steel case. The zero end of this tape is fastened by flip hook to the bark of the tree. This flip hook generally holds fast while the tape is reeled out to the hypsometering point. After completing the usable length measurement the tape is reeled back into the case.

#### The New Method

Because this reel tape procedure is slow, I seldom use it. Instead, I use a 60-foot steel drag tape, graduated at the seventh- and fifth-acre points for plot work and at the 33-, 50-, and 60-foot points for hypsometering distances.

#### The 60-Foot Multiple Purpose Drag Tape

This tape, made by the N. S. Forest Products Company at Big Falls, Minnesota, or available by special order from other engineering equipment companies, is a multiple purpose tool.

When measuring plot radii, the pin, which is fastened to the zero end of the tape on a swivel joint, is stuck into the soil at the exact plot center.

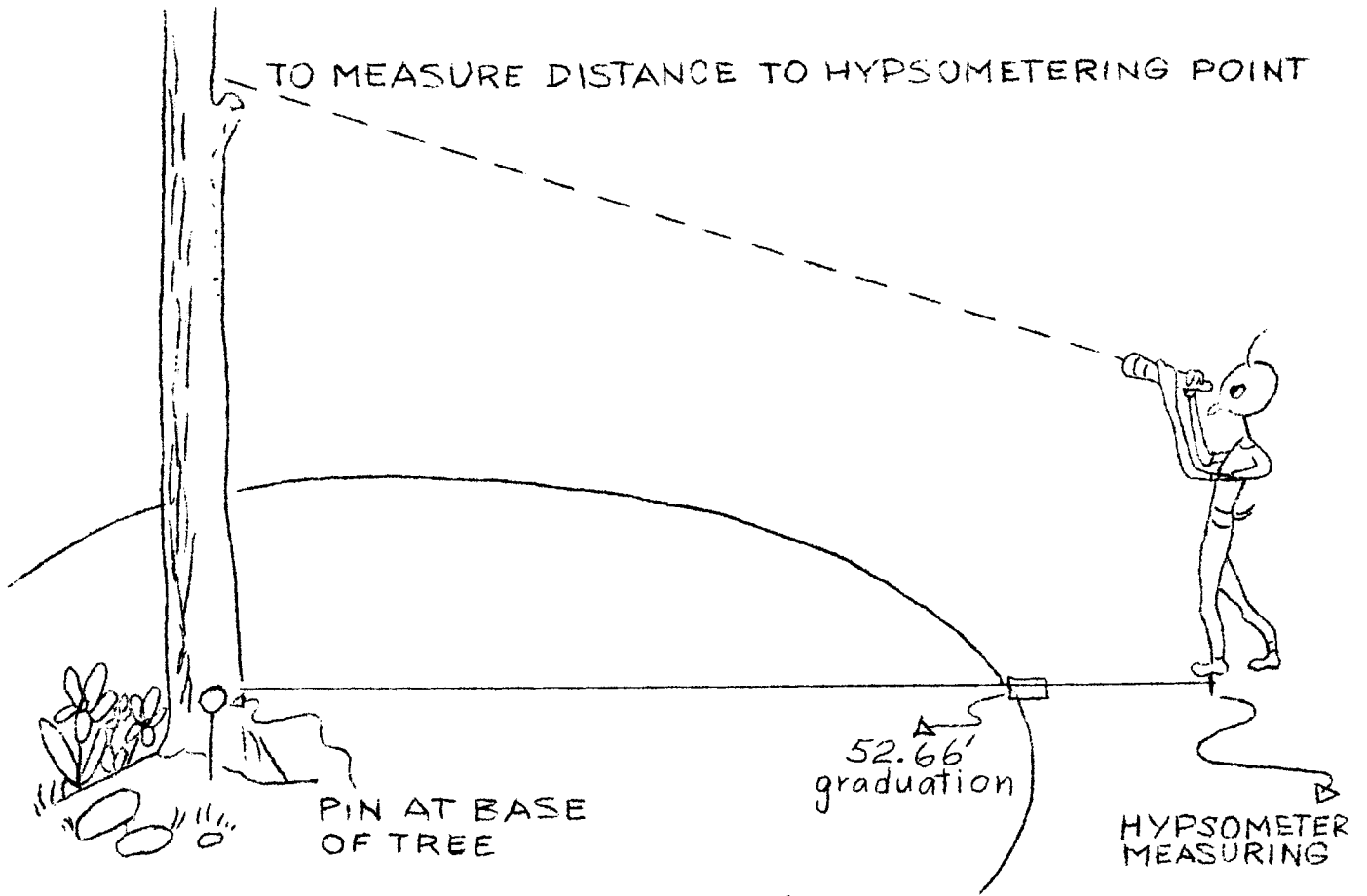
When measuring distances for tree length determination by hypsometer, the pin is stuck into the ground at the base of the tree to be measured.

Some cruisers drag two tapes to each CFI plot. One is the standard plot tape sprayed with yellow enamel, the other a 60-foot tape sprayed with orange enamel, but the 60-foot drag tape alone is completely satisfactory for both jobs.

A single tape for both plot radii and hypsometering distances will reduce plot establishment time for the fixed radius CFI sampling done in Region 9.

CAL STOTT  
Forester, Region 9  
U. S. Forest Service

# MEASURING TALL TIMBER HEIGHTS USING THE 60 FOOT STEEL DRAG TAPE



TO MEASURE THE RADII OF PERMANENT PLOTS.

